

Notes and Memoranda

THE GALTON LECTURE

THE GALTON LECTURE 1963 will be delivered by Mrs. M. A. Pyke on Wednesday, February 27th, at 5 p.m. at the Rooms of the Royal Society, Burlington House, Piccadilly, London, W.1.

Tea will be served at 4.15 p.m., and Fellows and Members, who may bring guests, are asked to notify the Administrative Secretary, at 69 Eccleston Square, if they intend to be present.

DARWIN RESEARCH FELLOWSHIP

A. W. F. EDWARDS, M.A., PH.D., to whom the Eugenics Society awarded a Darwin Research Fellowship in 1960/61, sends us the report which follows. Educated at Uppingham School and Trinity Hall, Cambridge, he there took a degree in genetics under the late Sir Ronald Fisher. A three-year tenure of a Medical Research Council Scholarship was followed by the *Society's* Fellowship, and he is now working on the analysis of human data under Professor L. L. Cavalli-Sforza in Pavia. In addition to the activities which he reports below Dr. Edwards wrote a rejoinder to a paper in *Nature* which had given an alternative to Fisher's theory of natural selection and the sex ratio,¹ and published a paper on Genetics and the Human Sex Ratio which he had been invited to contribute to *Advances in Genetics*.⁵

DR. A. W. F. EDWARDS writes: My tenure of a Darwin Research Fellowship was cut short by my accepting an invitation from Professor L. L. Cavalli-Sforza to work in Italy, so that my activities only lasted for a year.

The original research programme involved a biometrical study of the frequency of occurrence of "drumsticks" in the white blood cells of normal women. A drumstick occurs in about one in forty of the neutrophil leucocytes, and is evidently a manifestation of one of the X-chromosomes. It is known that abnormal drumstick counts are obtained from women with sex-chromosomal abnormalities, or with some

autosomal abnormalities such as monogolism, but in normal women it is only known that the counts display a greater variance than can be ascribed to chance; some of this variance may be genetic and heritable, so that the count can be treated as a metrical character worthy of genetic study. The character is, of course, only manifest in women, but it is nevertheless quite convenient because it is sufficient to take one drop of blood in order to make the count. Thus the sampling of a population is a simple matter, only offset by the tedium of doing a great many drumstick counts.

My interest in this subject arose originally through the possibility of correlating the drumstick count with the sex ratio amongst the women's children, which was to be a part of the research programme, and I had already published a statistical paper on the analysis of counts. As it turned out, in the months before I knew I would be leaving for Italy I only had time to accumulate the necessary equipment, and to learn some of the haematological techniques from Professor Davidson, the discoverer of drumsticks.

The subsidiary subject for research was the inheritance of disorders at birth, such as breech deliveries and those requiring Caesarian section. This might be particularly valuable, because if such disorders have any genetic background one might expect them to be increasingly frequent, for not only are children now reared who would formerly have died at birth, but mothers who suffer from difficult childbirth can now safely have further children, so that the fitness of the controlling genes (if such there are) has increased, a matter of considerable eugenic interest.

Such, then, was the programme, but when it became apparent that time was too short to allow any useful contribution in these fields, I concentrated on continuing a study of the human sex ratio.

There is no doubt that much of the statistical work on the distribution of the sexes within families has been of rather low quality. Genetic-

ists seem to have by-passed the subject, regarding the sexual segregation as one of the facts of life which is to be accepted rather than investigated; demographers have kept to the purely actuarial problem of how the sex ratio varies with time and place; and workers in social medicine to the problem of how the sex ratio differs with social class, legitimacy, etc. The field of the distribution of the sexes within families has largely been left to people with a transient interest in the subject.

That geneticists should not have become involved is strange in view of Fisher's comments in *The Genetical Theory of Natural Selection*, where he showed that, provided there is some heritable variance in sex ratio, a simple theory can account for the observed sex ratios, in mammals at least. It seems only natural to look for this variance. Newcomb* set out to do this at the beginning of the century, but he was ahead of his time.

Part of the difficulty has no doubt been that, in the human field, the available data have been dominated by the four million births recorded by an industrious Saxon registrar, Arthur Geissler, seventy years ago. Since the majority of censuses do not provide the data in a useful form, the research worker must collect his own (or, if he is fortunate, borrow someone else's), and nobody wants to compete with four million births. Thus for the most part attention has been confined to analysing, reanalysing, and mis-analysing, Geissler's data, usually without any particular purpose in mind. The situation has been worsened by the fact that some aspects of these data have remained enigmatic to the last.

However, in the past decade more data have been collected and analysed, and during my tenure of the Research Fellowship a Finnish worker, Renkonen, sent me an offprint containing a large amount of new material which he had given only superficial statistical treatment. I therefore set about looking for some excess variance in it (over that expected on the simple binomial hypothesis), using a factorial analysis of χ^2 .² No such variance was found, but an incontrovertibly significant association between the sexes of successive children in a family

appeared. This finding was not new, Renkonen having already noticed it and some French data having shown it a few years earlier, but its publication in an English journal should help to stimulate explanations for it. As to the variance, the fact remains that in the most reliable data there is no variance that might be in part genetic, and this is a very remarkable thing.

Another activity was the setting up of mathematical models for the control of the sex ratio in various situations, and during the year I published a paper³ giving a model for the locus "sex-ratio" in *Drosophila pseudoobscura*, using a computer to simulate experimental populations. Another model involved a specific consideration of Fisher's concept of parental expenditure, and I gave an outline of this in a paper⁴ to the Second International Conference of Human Genetics, at which I was one of the *Society's* representatives.

Whilst I do not want to try and justify this work as of value to eugenics—indeed, the Darwin Research Fellowships are designed to further research on "normal human variation"—it is worth while pointing out that, before the end of the century, it may become possible to choose the sex of one's children by allowing the sperm to undergo a separation procedure. Sex may thus be the first genetical segregation under our control, and the attitude of eugenicists to this needs to be thought out well in advance. A thorough knowledge of the statistics of the sex ratio would be essential.

But for the present I can only say that perhaps Darwin himself would have been happy to see a Research Fellowship bearing his name used to further the study of the sex ratio, for in 1871 he wrote of its genetics: "I now see that the whole problem is so intricate that it is safer to leave its solution to the future."

PAPERS WRITTEN BY THE AUTHOR AS DARWIN RESEARCH FELLOW

1. Natural Selection and the Sex Ratio. 1960. *Nature*, **188**, 960-61.
2. A factorial analysis of sex ratio data. 1961. *Ann. hum. Genet. Lond.*, **25**, 117-121.
3. The population genetics of "sex ratio" in *Drosophila pseudoobscura*. 1961. *Heredity*, **16**, 291-304.
4. The limitations of population models. 1962. *Proceedings of the Second International Conference of Human Genetics, Rome, 1961*.
5. Genetics and the Human Sex Ratio. 1962. *Advances in Genetics*, **11**, 239-272.

* For this and other references see the author's paper, *Genetics and the Human Sex Ratio*.⁵

RESTORATION OF THE MENDEL MUSEUM

PROFESSOR F. B. HUTT of Cornell University in Ithaca, New York reports in the *Journal of Heredity* (1962, 53, 27) a correspondence with Dr. Krizenecky who has been made responsible for the renovation of the Mendel Museum in Brno and who is quoted as saying that this work is "not only supported by the government but is an official project, being set in motion in regard to the Mendel Centenary Symposium which is to be held in our Mendel-town in 1965. The project is not only to establish a Mendel-Memorial Hall, with his library, instruments, manuscripts, personal documents and so on . . . but to build up a genetical exposition on the historical development of genetics up to the present time, and to organize a cabinet for studies of the history of genetics and the theory of evolution . . . a laboratory for population genetics . . . and a laboratory for karyology and cytotaxonomy . . . as a "G. Mendel Department of Genetics" of the Moravian Museum in Brno."

It is understood that Dr. Krizenecky has had difficulty in getting some of the earlier books which should be in the Library of the new department, and that he would be glad to answer questions and receive advice and help. His address is: Brno, Susilova 11, Czechoslovakia.

Professor Hutt concludes his notes: "Geneticists the world over will rejoice in the news that the one hundredth anniversary of the presentation of Mendel's findings to the Natural History Society of what was then Brünn is to be suitably commemorated in that same city, now Brno, in 1965."

PUBLICATIONS RECEIVED

- Agarwala, S. N.** *Fertility Control through Contraception: A Study of Family Planning Clinics of Metropolitan Delhi*. Delhi. 1962. Government of India Press. Pp. vii + 85. n.p.
- Bandettini, Pierfrancesco.** *La Popolazione della Toscana dal 1810 al 1959*. Florence, 1961. Scuola di Statistica dell' Università di Firenze. Pp. xxiii + 390 n.p.
- Borel, Emile.** Trs. Maurice Baudin. *Probabilities and Life*. London, 1962. Constable. Pp. vi + 87. Price 8s.
- B.R.A. Review.** Journal of the British Rheumatism and Arthritis Association.

- Bulletin Signaletique*. 16. *Biologie et Physiologie: Animales*. 1961. 22, 4. Centre Nationale de la Recherche Scientifique, Paris.
- Burt, Cyril.** Francis Galton and his Contributions to Psychology. Reprinted from *The British Journal of Statistical Psychology*. 1962. 15, 1, 1-19.
- Coal Quarterly*. The National Coal Board Review.
- Craig, Alec.** *The Banned Books of England and other Countries*. London. 1962. Allen & Unwin. Pp. 243. Price 30s.
- Greet, Kenneth G.** *The Mutual Society: Aspects of the relationship of men and women*. London, 1962. Epworth. Pp. 170. Price 12s. 6d.
- Howells, William** (Editor) *Ideas on Human Evolution*. Cambridge, Mass., 1962. (London, Oxford University Press.) Pp. xiii + 555. Price 80s.
- Human Genetics Abstracts*. September 1962. 1, 1. Excerpta Medica. Annual subscription £7 5s.
- King, Robert C.** *Genetics*. London, 1962. Oxford University Press. Pp. xiv + 347. Price 60s.
- Lawrie, Macpherson.** *The Anatomy and Excellence of Human Nature*. Rochford, Essex, 1962. Daniel. Pp. 95. Price 7s. 6d.
- The National Central Library.** 46th Annual Report of the Executive Committee for the year ending 31 March 1962.
- National Institute of Economic and Social Research.** *Economic Review*. November 1962. No. 22.
- Nichols, David.** *Echinoderms*. London, 1962. Hutchinson University Library. Pp. 200. Price 12s. 6d.
- Population Reference Bureau Inc.** *Annual Report—Nineteen Sixty-one*.
- Richter, D., Tanner, J. M., Taylor, Lord and Zangwill, O. L.** (Editors). *Aspects of Psychiatric Research*. London, 1962. Oxford University Press. Pp. x + 445. Price 63s.
- Schlaginhaufen, Otto.** Die Irisfarbe der Schangnauer Schulkinder. Reprinted from *Bulletin der Schweizerischen Gesellschaft für Anthropologie und Ethnologie*, 1961/2. 38, 104-16.
- Palä- und Neomelaneside auf Neuirland. Reprinted from *Homo*. 1962. 13, 108-13.
- Shields, James.** Foreword by Eliot Slater. *Monozygotic Twins brought up apart and brought up together*. London, 1962. Oxford University Press. Pp. x + 264. Price 50s.
- Susser, M. W. and Watson, W.** *Sociology in Medicine*. London, 1962. Oxford University Press. Pp. xii + 337. Price 42s.
- Washburn, Sherwood L.** *Social Life of Early Man*. Viking Fund Publications in Anthropology. London, 1962. Methuen. Pp. ix + 299. Price 50s.
- Women in Council*. The Journal of the National Council of Women of Great Britain.
- Yasuba, Yasukichi.** *Birth Rates of the White Population of the United States, 1800-1860: An Economic Study*. The Johns Hopkins University Studies in Historical and Political Science. 1961. 79, 2. Baltimore, 1962. Johns Hopkins Press. (London, Oxford University Press). Pp. 198. Price 40s.

THE EUGENICS REVIEW

RECENT ADDITIONS TO THE LIBRARY

The following books have been added to the Eugenics Society's Library during the past quarter.

Dobzhanski, Theodosius. *Mankind Evolving.* 1962. Pp. 381. Presented by Dr. C. O. Carter.

F.A.O./U.N. *The State of Food and Agriculture* 1962. Pp. 198.

Gemant, Andrew. *The Nature of the Genius.* 1961. Pp. 206. Presented by Dr. Eliot Slater.

Howells, William (Editor). *Ideas on Human Evolution: Selected Essays 1949-1961.* 1962. Pp. 555.

Pendell, Elmer. *The Next Civilization.* 1960. Pp. 238. Presented by Sir Julian Huxley.

Population. *International Population Conference, Vienna, 1959. Discussions.* 1962. Pp. 134. Presented by Dr. C. P. Blacker.

United Nations. *Demographic Yearbook* 1962. Pp. 713.

W.H.O. *Deprivation of Maternal Care: A Reassessment of its Effects.* 1962. Pp. 165.

ELECTIONS TO THE SOCIETY

THE FOLLOWING HAVE been elected Fellows (*) and Members of the Eugenics Society:

Mrs. J. E. M. E. H. Baker

*Mrs. B. M. Bernardelli, M.A.

*Martin Canny, M.A., Ph.D.

*Donn Casey, B.Agr.Sc.

*C. A. Clarke, M.A., M.D., F.R.C.P.

*Professor P. Sargant Florence, C.B.E., M.A., Ph.D.

G. C. Gould, M.B., B.S.

G. Palmi, M.B., B.S.

*John Peel, B.A.

Dr. T. Rajhathy

*J. A. H. Waterhouse, M.A., Ph.D.

Raymond Wilson

GENUS

The Review of the

ITALIAN COMMITTEE FOR THE STUDY OF POPULATION PROBLEMS
and of the

ITALIAN SOCIETY OF GENETICS AND EUGENICS

edited under the auspices of the National Research Council

E D I T O R : CORRADO GINI

Summary of Volume XVI—December 1960—N.1-4

ROBERT KUTTNER

—Cultural Selection of Human Psychological Types.

CORRADO GINI

—A proposito di una nuova Opera sui Vichinghi ecc.

T. LYNN SMITH

—Rural-Urban Demographic Differences in Latin-America.

PLACIDO NICOLICCHIA

—Le caratteristiche demografiche di un gruppo di Zulu (Bantu) della Riserva indigena di Mapumulo (Natal).

—Le caratteristiche demografiche di un gruppo di Albanesi di Kavaja.

THOMAS E. LEE

—The lost Battleground of the long sault.

CORRADO GINI

—*Rassegna*—Sulle differenze innate tra i caratteri mentali nelle varie popolazioni.

RECENSIONI

BIBLIOGRAFIA

PUBBLICITA

GENUS

Accepts scientific articles, papers, notes and communications written in Italian, English, French, German and Spanish in the field of the different sciences related to population problems (Demography, Sociology, Economics, General Biology, Eugenics, Anthropology, Social Hygiene, Psychology, Genetic Geography).

Orders should be addressed to: Segreteria del Comitato Italiano per lo Studio dei Problemi della Popolazione, Via delle Terme di Diocleziano 10, Roma—Italia

U.S.A. \$6